

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027700**Date Inspected:** 04-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Jesse Cayabyab and Bernie Docena			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	SAS Tower		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Electro Slag Weld (ESW), QA randomly observed ABF/JV qualified welder Xiao Jian Wan continuing to perform CJP groove welding repair. The welder was observed manually welding in the 3G (vertical) position utilizing the dual shielded Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3000-3 repair. The repair excavation was preheated and continuously maintained to more than 325 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded was located at ESW 'H' face A from Y=7355mm and it was verbally approved by ABF QC Manager Jim Bowers according to ABF Lead QC Bonifacio Daquinag. During the shift, ABF QC Jesse Cayabyab was noted monitoring the welder with measured working current of 260 amperes, 23.0 volts with travel speed of 170mm per inch. At the end of the shift, 3G FCAW-G repair welding at location mentioned above was completed. Listed below was the first time repair being welded during the shift;

Location	Weld No.	Y-dim.	Length	Width	Depth	Remarks
11. ESW 'H'	N-045	7355mm	290mm	+55mm	+40mm	Completed.

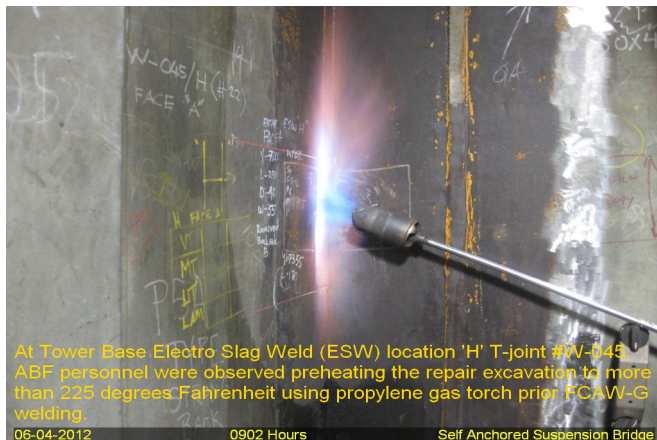
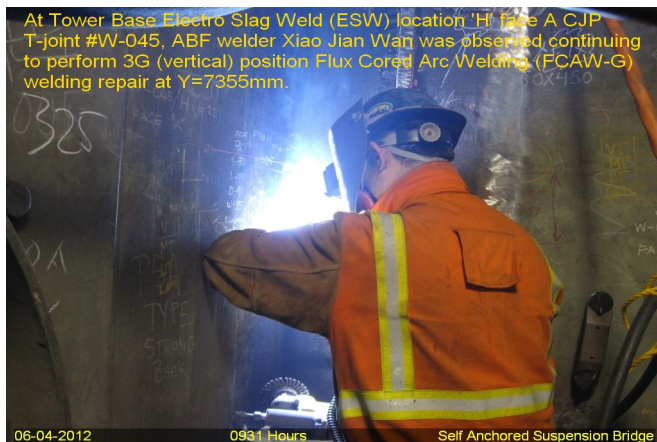
At Tower Base Electro Slag Weld (ESW), QA randomly observed ABF/JV qualified welder Lou Xiao Hua perform CJP groove welding cover repair. The welder was observed manually welding in the 3G (vertical)

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position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E70018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair. The ESW weld covers being repaired which are located at ESW 'P' transition butt joint N-043 below the 9 meter diaphragm are having excavations with less than five (5) mm depth that were rejected due to visual defects and Magnetic Particle Testing (MT) indications. Prior welding, the welder was noted preheating the plate to more than 300°F using propylene gas torch and was verified by ABF QC Bernie Docena. QC was also noted monitoring the parameters of the welder with measured working current of 120 amperes on the 3.2mm diameter E7018H4R.

At Tower Base 13 meter external diaphragms, this QA noted ABF personnel continuing to grind the welded cover of West and South external diaphragms W110 and W111 respectively in preparation for the Visual Test (VT) and the Magnetic Particle Testing (MT) to be performed by ABF QC and QA. During the shift, ABF QC Bernie Docena was noted monitoring the various activities being performed by ABF personnel. At the end of the shift, grinding of various corner stiffeners and flush grinding on the weld cover of PJP T-joints W110 and W111 were still continuing. ABF welder Han Wen Yu was also noted performing touch up SMAW welding on the weld covers of W110 and W111 due to underfill and surface profile. After the completion of the touch up repair on the two PJP T-joints mentioned, the same welder also performed weld cover repair on the corner stiffeners W139-2 and W140-2 due to excessive undercut. All the welds that were cover repaired were preheated to 225°F using propylene gas torch prior welding. At the end of the shift, SMAW weld cover repair was still continuing and should remain tomorrow.



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### Summary of Conversations:

No significant conversation occurred today.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell, Bill
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QA Reviewer
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